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ADDITIONAL RECORDS OF FISHES OCCURRING IN THE FRESH WATERS OF WESTERN AUSTRALIA

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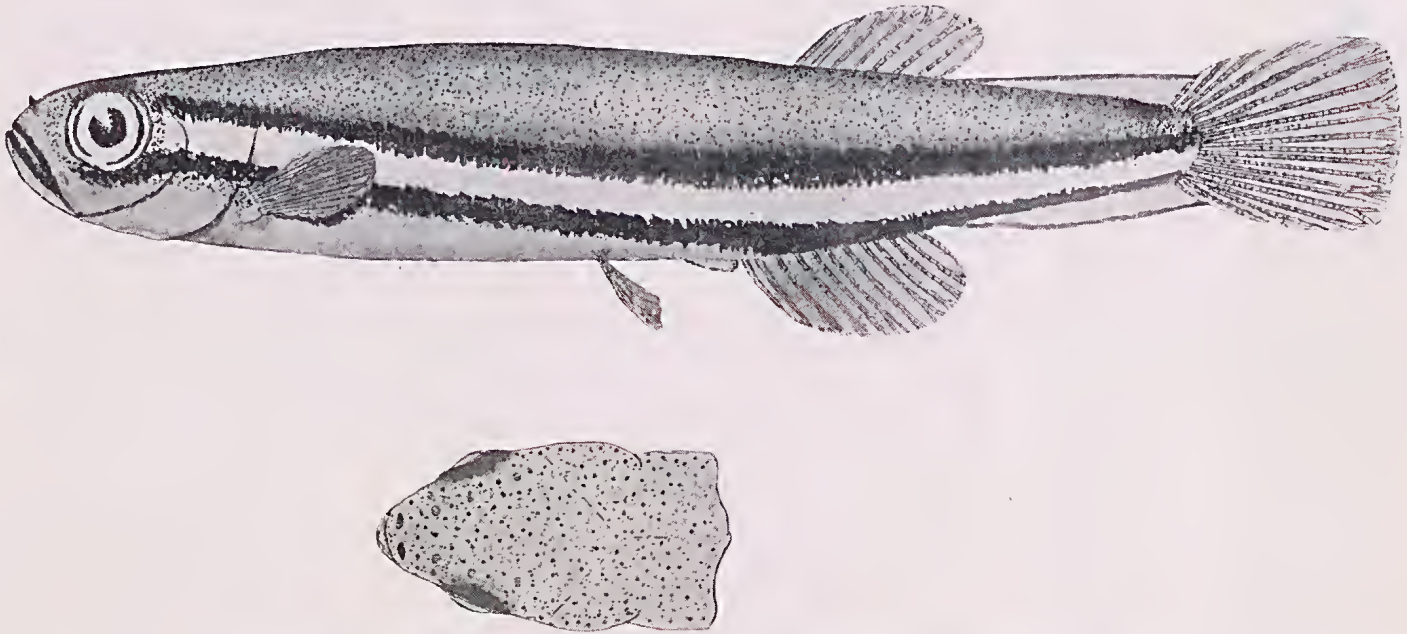
In view of the indiscriminate introduction of exotic fresh water fishes encouraged by the present State Fisheries administration and the likelihood of the extermination in consequence of some of the indigenous species, data on the presence of native fishes not hitherto recorded at the Western Australian Museum may be of interest to future workers.

Introduced fishes have been planted in local fresh waters intermittently over the past 80 years, but unfortunately very scanty records survive of the earlier experiments and it would appear that the Western Australian Fisheries Department has not preserved much information about these fairly extensive introductions (cf. Fraser, 1948). The first successful introduction of trout into Western Australia was made at Albany in 1874, when a shipment of ova from Ballarat was sponsored by Governor Weld (*The Inquirer* newspaper, Perth, October 28, 1874). W. Saville-Kent's plantings of various species began in 1894 (he had a hatchery at the Vasse), to be followed soon after by the extensive introductions of the Acclimatisation Committee, which established a hatchery at Whitby Falls in 1896.

I.—THE BLACK-STRIPED MINNOW, *Galaxias pusillus.*

In June 1949 whilst successfully searching for specimens of *Nannatherina balstoni* Regan, in a small drain feeding into Marbellup Creek, near Albany I caught several small *Galaxias* which from their striped appearance were seen at once to be unusual.

Later examination disclosed not only the remarkable deviation from the spotted or marbled colour pattern of most Australian *Galaxias,* but also a difference in fin alignments—the origin of the anal fin was forward of the dorsal, in conflict with the current definition of the genus. The fish were not found in subsequent visits to the area in January 1950 and January 1951 but were found again in a collecting trip in May 1951. A description was prepared and it was proposed to describe them as a new species, *Galaxias nigrostriatus.*



Black-striped Minnow, *Galaxias pusillus nigrostriatus* subsp. nov. x 5.
—Bruce Shipway, del.

However, on my attention being drawn to a description of new Victorian species of *Galaxias* by George Mack (1936) I saw at once that my fish were the same as one of his new species, *Galaxias pusillus,* from Cardinia Creek, about 30 miles east of Melbourne. I applied to the National Museum, Melbourne for two specimens for dissection and I am very grateful for their co-operation in supplying them. Comparison between the two samples shows that the Albany fish warrant subspecific separation, and I accordingly revive my original manuscript specific name in a trinomial sense:

Galaxias pusillus nigrostriatus subsp. nov.

Body moderately elongate, subcylindrical, its greatest depth above the ventral fin, being contained six times in the standard length (without caudal fin). The length of the head is contained five times in the standard length. Snout broad, with jaws equal in length; cleft of the mouth very narrow; the maxillary extending nearly to below the front margin of the orbit. Eye of moderate size, as long as the snout and contained 2½ times in the head. Single row of conical teeth on the upper and lower jaws, and six large recurved teeth on the tongue. Eight pores present on the top of the head in addition to the two nasal apertures. Cranial pore above symphysis of jaws, elongate, its length three times its width. Nostrils with short fleshy appendages. Gill openings separated by a rather wide isthmus. Branchiostegals present. Pseudobranchiac not seen.

Fin formula: D. 2 + 6; C. 3 + 14 + 4; A. 2 + 10; V. 1 + 5; P. 15 - 16. Caudal strongly truncate. Origin of dorsal above fourth ray of anal.

Colour in life: Olivaceus above the lateral line; a black stripe below; an orange stripe below that and then another black stripe above a white ventral surface. A black spot on the dorsal portion of the posterior section of the caudal peduncle.

Differs from *Galaxias pusillus pusillus* Mack, 1936, in the shape of the cranial pore (which is elongate in *nigrostriatus* instead of circular) and that the width of the upper lip tapers to its junction with the lower, instead of remaining at a constant width.

Length (to the caudal fork) of specimens examined: 29, 29, 30, 31, 31, 31, 33, 35 and 37 mm. (= 1¼ - 1½ in.).

Type: W.A. Museum, no. P3420.

Described from nine specimens caught on June 2, 1949 by dip-net in a small drain running into Marbellup Creek on a property owned by Mr. Byland and situated at Elleker near Albany. An additional seven specimens were netted in May 1951.

G. pusillus nigrostriatus was found in association with *Galaxias occidentalis, Nannatherina balstoni, Nannoperca vittata,* and *Bostockia hemigramma.*

The discovery of this little fish is of considerable zoogeographical interest. As Mack has pointed out, it possesses a com-

hination of characters (5-rayed ventrals and the relation of the anal and dorsal fins) shared with only one other species of *Galaxias* —*G. bullocki* Regan from the fresh waters of Chile—and for which Eigenmann (1924) proposed a new genus, *Brachygalaxias*.

II.—RAINBOW FISH, *Melanotaenia nigrans*

The writer had seen what was believed to be *Melanotaenia nigrans* (Richardson, 1843)—the Queensland Rainbow Fish or Pink Ear—in North-west streams such as the Forteseue River, but, at the time (1930-1932), did not have specimens or a detailed description for comparison. The fish, under the synonym of *Neoatherina australis* Castelnau, was listed by McCulloch, 1929, but the locality given, off Swan River, Western Australia, is almost certainly an error in labelling and therefore must be disregarded.

On December 7, 1952 Dr. D. L. Serventy collected a number of small fish in Keane's Rockhole in the Bullawarrina River (probably a tributary of the West Yule River which flows into the sea between Cossack and Port Hedland), at the Hooley Station, North-western Australia. Dr. Serventy kindly gave me five of these fish for examination. Three were *Melanotaenia nigrans* and the remaining two were *Therapon unicolor (Madigania unicolor* of Whitley, 1948).

The capture of *Melanotaenia nigrans* by Dr. Serventy is extremely interesting as it extends the known range into a new isolated area, namely that characterised by the Greyian Fluvifaunula (Whitley, 1947), and constitutes the first definite record of the species from Western Australia.

Melanotaenia nigrans is one of the few Australian fishes that have become popular as aquarium fishes and is now known overseas as the Queensland Rainbow Fish.

The shape of the fish is subject to a great deal of variation and the specimens were an excellent example of this, a variability which, no doubt, helped to confuse some of the early workers and build up a considerable list of synonyms.

Details of the Bullawarrina River specimens are as follows:—

Specimen No. 1. ♂ Length to caudal fork 82 mm., maximum depth (at the origin of the 1st dorsal fin), 30 mm. Ratio of length to depth, 2.75.

Specimen No. 2. ♂ L.C.F., 79 mm.; maximum depth, 25 mm. Ratio of length to depth, 3.15.

Specimen No. 3. ♀ L.C.F., 84 mm.; maximum depth, 23 mm. Ratio of length to depth, 3.65.

Colour in life: Specimen No. 1. General colour grey-brown upper parts, silvery below, with about 6 longitudinal stripes of orange-buff along the body. An orange spot on the operculum in front of the origin of the pectoral fin. Caudal fin olive-grey, anal fin grey with olive-green tone, first dorsal olive-grey, second dorsal fin similar but slightly duller. Iris grey with yellow markings.

Specimen No. 2. Much more highly coloured. Stripes brilliant orange, 7 stripes, 6 of them very prominent. Fins with orange-blotched webs giving them a colourful appearance when fanned out. Orange also in caudal fin.

The sexes may be distinguished in the adults by the pointed extremities of both dorsal fins and the anal fin of the male. These fins in the female have their posterior margins rounded. The dorsal and anal fins of the male are usually darker than in the females. This is particularly noticeable during the breeding season when the males' fins are sometimes jet black, which fact, no doubt, influenced the choice of both the generic and specific names.

An account of the breeding and other habits of the species has already been published (Shipway, 1947). Many line drawings, detailed figures and photographic reproductions are available so a figure is omitted in this case.

REFERENCES

Eigenmann, C. H., 1924, "The Fresh-water Fishes of Chile," *Mem. Nat. Acad. Sciences,* vol. xxii, no. 2.

Fraser, A. J., 1948, *in* "Trout in the Karri Country," *Pemberton Trout Acclimatisation Society and Government Tourist Bureau,* 2nd. edn.

Mack, G., 1936, "Victorian Species of the Genus *Galaxias* with Descriptions of two new Species," *Mem. Nat. Mus., Melbourne,* no. 9.

McCulloch, A. R., 1929, "A Checklist of the Fishes Recorded from Australia," *Austr. Mus. Sydney, Mem.* v, p. 112.

Richardson, J., 1843, "Contributions to the Ichthyology of Australia," *Ann. Mag. Nat. Hist.,* vol. xi, p. 180.

Shipway, B., 1947, "The Fresh-water Fishes of the Barron River, North Queensland," *North Queensland Naturalist,* vol. xv, September 1, p. 5.

Whitley, G. P., 1947, "The Fluvifaunulae of Australia," *W.A. Naturalist,* vol. 1, no. 3, p. 49.

Whitley, G. P., 1948, "A List of the Fishes of Western Australia," *Fisheries Dept., W.A.,* Bull. no. 2.

THE SOUTHERN INVASION OF NORTHERN BIRDS DURING 1952

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INTRODUCTION.

In 1952 there occurred the most widespread and conspicuous irruption of northern Australian birds into the south that has yet come under the notice of naturalists. The species participating in the movement were mostly Kimberley birds, as, for example, the Black Kite *(Milvus migrans),* the Brolga *(Grus rubicunda)* and the Pied Goose *(Anseranas semipalmata),* but others, typified by the Letter-winged Kite *(Elanus scriptus),* were nomads from central Australia.

The movements were not confined to Western Australia; the whole of southern Australia shared in receiving this phenomenal immigration and some elements of it even reached New Zealand.